

Reflective Coaxial SPST Switch 1MHz-200MHz



Note: Photo is for illustration purposes only.
Please refer to outline drawing.

Features

- TTL compatible driver included
- Fast Switching Speed
- Low Power Cold Switching
- Insertion Loss 0.8dB Typical
- Isolation 85dB Typical
- 50 Ohm Matched

Product Description

RFSPSTR0002M is a reflective coaxial single pole single throw switch with a frequency range of 1 to 200MHz.

The maximum power input of this switch is 30dBm. The insertion loss is 0.5dB with a typical isolation of 85dB.

The product features fast switching speed, low insertion loss and high isolation.

The working temperature of this product is between - 40°C and + 85°C

Typical Applications

- Wireless Infrastructure
- Military and Aerospace Applications
- Test Instrumentation
- Radar Systems
- 5G Wireless Communications
- Microwave Radio Systems
- TR Modules
- Research and Development
- Cellular Base Stations

Electrical Specifications(TA = +25°C), Vdd = +5V/-5V, TTL = 0 / +5V

Parameter	Min	Typ	Max	Min	Typ	Max	Units
Frequency Range	1		10	10		200	MHz
Insertion Loss		1.5	2.3		0.5	0.7	dB
Insertion Loss Temperature Coefficient		0.003			0.003		dB/ °C
Isolation (J0→J1)	70	85		70	85		dB
Input VSWR		1.2	1.3		1.2	1.3	: 1
Output VSWR		1.2	1.3		1.2	1.3	: 1
RF Input power (CW)			30			30	dBm
DC Power Dissipation (CW)		0.3			0.3		W
0.1dB Compression P0.1dB		30			30		dBm
IIP3		48			47		dBm
Switching Speed		5.5			5.5		us
Biasing(+5V/-5V)			50/50				mA
Weight			0.04 Max.				lbs
Impedance			50				Ω
Input / Output Connectors	SMA-Female(Input) – SMA-Female(Output)						
Package	Epoxy Sealed (Standard)						
	Hermetically Sealed (Optional)						

* J0: Reflective Port J1: Absorptive port

Absolute Maximum Ratings

Parameter	Rating
Biasing	+5V±10%/-5V±10%

* TTL pins cannot be connected to the negative voltage otherwise the internal driver will be damaged.

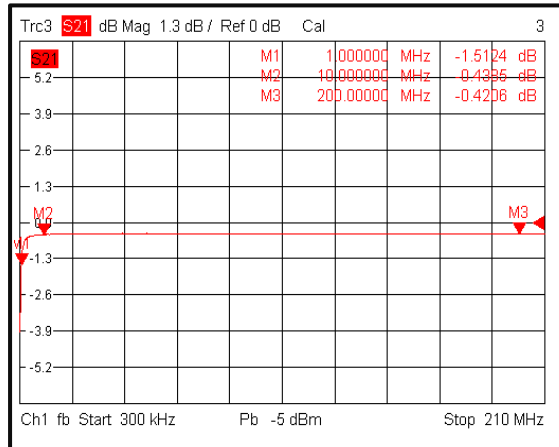
Environmental Specifications and Test Standards

Parameter	Description
Operational Temperature	-40°C to +85°C (Case Temperature)
Storage Temperature	-50°C to +105°C
Thermal Shock	-40°C → +85°C (5 Cycles / 10 hours)
**Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85°C for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight ≤20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

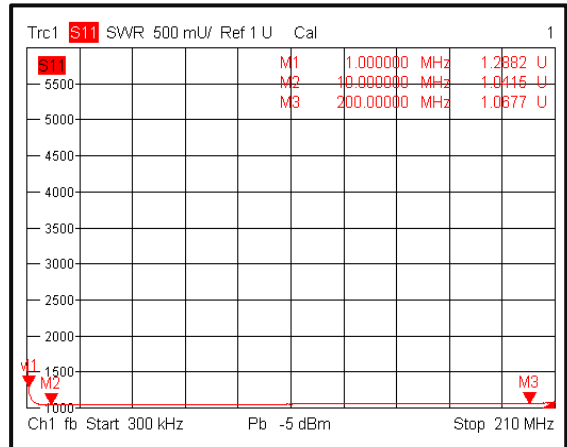
** For vibration testing details please see additional information section.

Typical Performance Plots

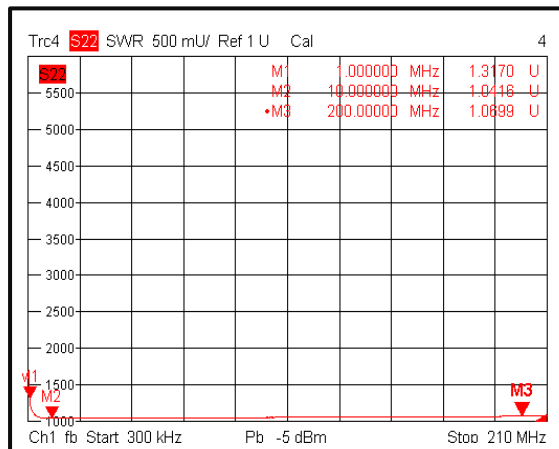
Insertion Loss



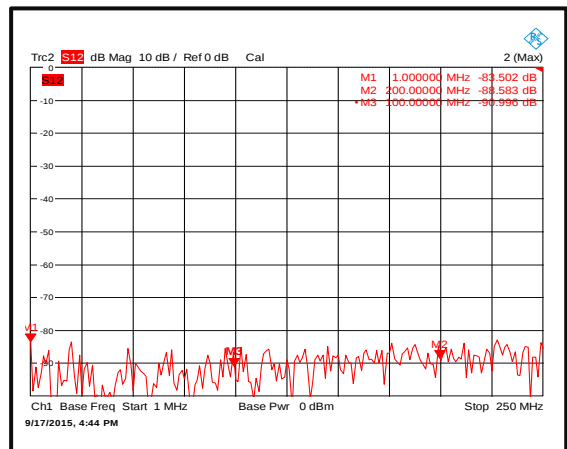
Input VSWR



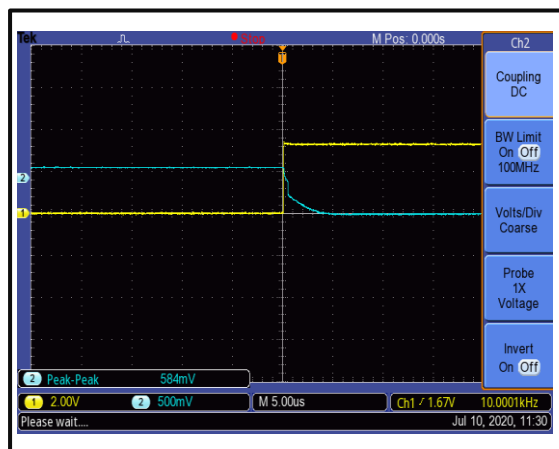
Output VSWR



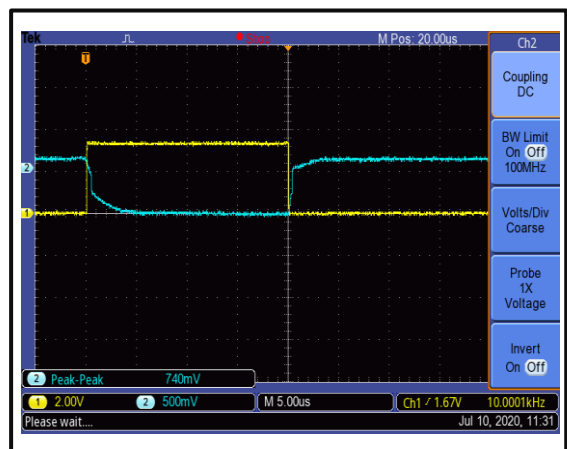
Isolation



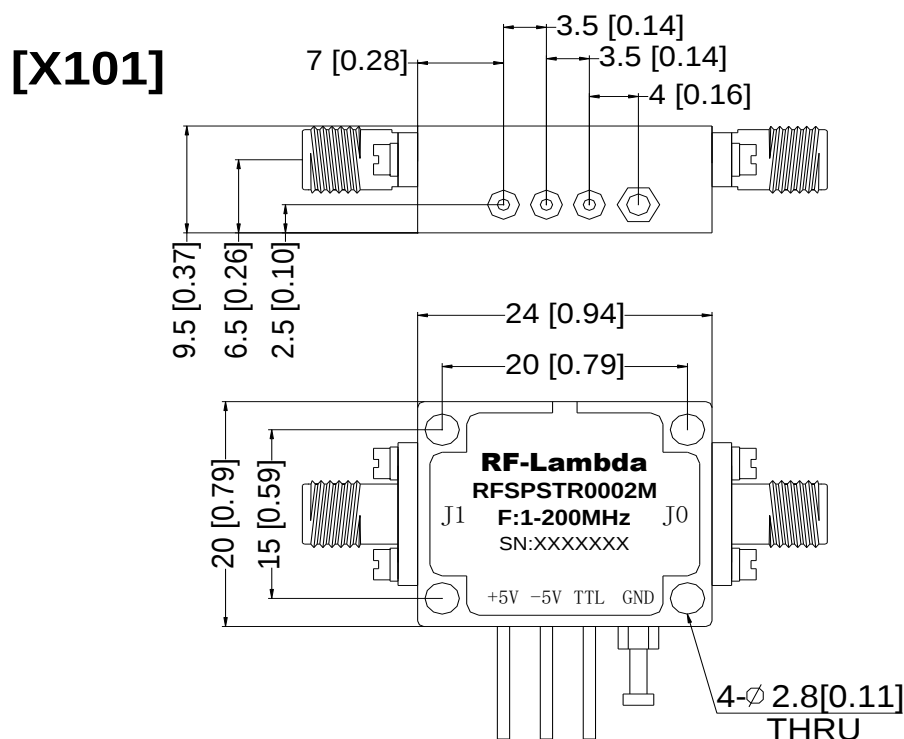
Switching Speed



Switching Speed

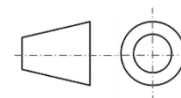


Outline Drawing



Truth Table	
TTL Control Voltage	Low(0)=0~0.8V
THRESHOLD	High(1)=2.8~5V
Control Input TTL	State
0	ON
1	OFF

Control Pin Customization available upon request



Notes:

1. Package Material: Aluminum
2. Finish: Gold Plated
3. All dimensions are in millimeters [inches].
4. Housing Tolerances ± 0.1 [0.004] unless otherwise specified.
5. Standard torque wrench must be used to secure RF connectors.

Additional Information

Documentation	Webpage
ESD Policy	https://rflambda.com/pdf/rflambda_esd_control.pdf
Connector Torque Specifications	https://www.rflambda.com/pdf/Torque_Specifications.pdf
Random Vibration Test Standard	https://www.rflambda.com/pdf/rflambda_random_vibration_MIL-STD-202G.pdf

Ordering Information

Part Number	Modification	Description
RFSPSTR0002M	Standard	1MHz-200MHz SPST PIN Diode Switch

Important Notice

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